

39. The method as claimed in claim 34, wherein a length of said buffer tube is less than 10 km.

40. The method as claimed in claim 34, further comprising varying an angular speed of said spool while said buffer tube is winding onto said spool.

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41. The method as claimed in claim 40, wherein said angular speed is increased while said buffer tube is winding onto said spool.

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42. The method as claimed in claim 40, wherein said angular speed is varied according to a monotonically function.

43. The method as claimed in claim 34, further comprising winding a pad between successive layers of said buffer tube.

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44. The method as claimed in claim 43 wherein said pad has a Young's modulus less than that of said buffer tube.

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45. The method as claimed in claim 43, wherein said pad is continuously wound with said buffer tube.

46. The method as claimed in claim 43, further comprising:
completing said winding of said buffer tube onto said spool; and

winding said buffer tube onto a second spool while removing said pad from
said winding.

47. A method for winding a buffer tube having at least one optical fiber therein
5 onto a spool comprising:

winding said buffer tube onto a spool while applying a draw tension to said
buffer tube; and

functionally changing an angular velocity of said spool as said buffer tube is
wound onto said spool.

10 48. The method as claimed in claim 47, further comprising placing a buffer pad on
said spool prior to winding said buffer tube.

15 49. The method as claimed in claim 48, wherein said buffer pad has a Young's
modulus less than that of said buffer tube.

50. The method of as claimed claim 47, wherein said changing occurs according
to a monotonical function which monotonically varies said angular velocity during
said winding.

20 51. The method as claimed in claim 50, wherein said monotonical function
monotonically increases said angular velocity during said winding.

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52. The method as claimed in claim 47, wherein a diameter of said spool at a point where said buffer tube is winding on said spool is larger than 100 mm.

5 53. The method as claimed in claim 47, wherein a length of said buffer tube is less than 10 km.

10 54. The method as claimed in claim 47, further comprising varying said draw tension while said buffer tube is winding onto said spool.

15 55. The method as claimed in claim 54, wherein said draw tension is decreased while said buffer tube is winding onto said spool.

56. The method as claimed in claim 54, wherein said draw tension is varied according to a monotonical function.

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57. The method as claimed in claim 47, further comprising winding a pad between successive layers of said buffer tube.

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58. The method as claimed in claim 57, wherein said pad has a Young's modulus less than that of said buffer tube.

59. The method as claimed in claim 57, wherein said pad is continuously wound with said buffer tube.